WORKER SAFETY AND FIRE PROTECTION

Testimony of Alvin J. Greenberg, Ph.D. and Rick Tyler

INTRODUCTION

Worker safety and fire protection is regulated based on laws, ordinances, regulations, and standards (LORS), and enforced through regulations codified at the Federal, State, and local levels. Worker safety is of utmost priority at the project location and is documented through worker safety practices and training. Industrial workers at the facility operate process equipment and handle hazardous materials daily and may face hazards that can result in accidents and serious injury. Protection measures are employed to either eliminate these hazards or minimize the risk through special training, protective equipment or procedural controls.

The purpose of this analysis is to assess whether the worker safety and fire protection measures proposed by Calpine, doing business as East Altamont Energy Center, LLC (applicant) for the East Altamont Energy Center (EAEC) are adequate measures to:

comply with applicable safety LORS;

protect the workers during construction and operation of the facility;

protect against fire; and

provide adequate emergency response procedures.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)

FEDERAL

In December 1970 Congress enacted Public Law 91-596, the Federal Occupational Safety and Health Act of 1970 (OSH Act). This Act mandates safety requirements in the workplace and is found in Title 29 of the United States Code, sections 651 through 678. Implementing regulations are codified at Title 29 of the Code of Federal Regulations, under General Industry Standards sections 1910.1 through 1910.1500 and clearly define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector. Most of the general industry safety and health standards now in force under this OSH Act represent a compilation of materials from existing federal standards and national consensus standards. These include standards from the voluntary membership organizations of the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA) which publishes the National Fire Codes.

The purpose of the Occupational Safety and Health Act is to “assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources,” (29 U.S.C. § 651). The Federal Department of Labor promulgates and enforces safety and health standards that are applicable to all businesses affecting interstate commerce. The Department of Labor established the

Occupational Safety and Health Administration (OSHA) in 1971 to discharge the responsibilities assigned by the OSH Act.

Applicable Federal requirements include:

Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.);

Occupational Safety and Health Administration Safety and Health Regulations (29 C.F.R. §§1910.1 - 1910.1500); and

Federal approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the Federal requirements found in Title 29 of the Code of Federal Regulations, sections 1910.1 – 1910.1500 and sections 1952.170 – 1952.175.

STATE

California passed the Occupational Safety and Health Act of 1973 ("Cal/OSHA") as codified in the California Labor Code, section 6300 et seq. Regulations promulgated as a result of the Act are codified at Title 8 of the California Code of Regulations, beginning with sections 337 through 560 and continuing with sections1514 through 8568. The California Labor Code requires that the Cal/OSHA Standards Board adopt standards at least as effective as the federal standards (Labor Code § 142.3(a)). Thus all Cal/OSHA health and safety standards meet or exceed the Federal requirements. California obtained federal approval of its State health and safety regulations, in lieu of the federal requirements which are codified at Title 29 of the California Code of Regulations, sections 1910.1 through 1910.1500. The Federal Secretary of Labor, however, continually oversees California's program and will enforce any federal standard for which the State has not adopted a Cal/OSHA counterpart.

Employers are responsible for informing their employees about workplace hazards, potential exposure and the work environment (Labor Code § 6408). Cal/OSHA's principal tool in ensuring that workers and the public are informed is the Hazard Communication standard first adopted in 1981 and contained in Title 8 of the California Code of Regulations, section 5194. This regulation was promulgated in response to California's Hazardous Substances Information and Training Act of 1980. It was later revised to mirror the Federal Hazard Communication Standard (29 C.F.R. § 1910.1200) which established on the federal level an employee's "right to know" about chemical hazards in the workplace, but added the provision of applicability to public sector employers. A major component of this regulation is the required provision of Material Safety Data Sheets (MSDSs) to workers. MSDSs provide information on the identity, toxicity, and precautions to take when using or handling hazardous materials in the workplace.

Finally, California Code of Regulations, title 8, section 3203 requires that employers establish and maintain a written Injury and Illness Prevention Program to identify workplace hazards and communicate them to its employees through a formal employee-training program.

Applicable State requirements include:

Cal. Code Regs., tit. 8, § 339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act;

Cal. Code Regs., tit. 8, § 337, et seq. - Cal/OSHA regulations;

Cal. Code Regs., tit. 24, § 3 et seq. - incorporates the current addition of the Uniform Building Code;

Health and Safety Code § 25500 et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility; and

Health and Safety Code §§ 25500 - 25541 - Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at the facility.

LOCAL

The California Building Standards Code published at Title 24 of the California Code of Regulations, section 3 et seq, is comprised of eleven parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the project. Local planning/building & safety departments enforce the California Uniform Building Code.

National Fire Protection Association (NFPA) standards are published in the California Fire Code. The fire code contains general provisions for fire safety, including but not restricted to: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code reflects the body of regulations published at Title 24 of the California Code of Regulations (Health and Safety Code § 18901 et seq.).

Similarly, the Uniform Fire Code (UFC) Standards, a companion publication to the California Fire Code, contains standards of the American Society for Testing and Materials and the NFPA. It is the United State's premier model fire code. It is updated annually as a supplement and published every third year by the International Fire Code Institute to include all approved code changes in a new edition. The latest revision of the Uniform Fire Code adopted into the Alameda County Fire Code is the 1997 version (Chapter 6.04 of Title 6 of the Alameda County General Ordinance Code). The Alameda County Fire Department administers the UFC.

Applicable local (or locally enforced) requirements include:

1998 Edition of California Fire Code and all applicable NFPA standards (Title 24, California Code of Regulations, sections 901-907);

California Building Code Title 24, California Code of Regulations, section 3 et seq.; and

Uniform Fire Code, 1997.

SETTING

The proposed project is located in unincorporated Alameda County, about 1 mile west of the San Joaquin County line and one mile southeast of the Contra Costa County line. The EAEC will be located on about 40 acres of the 174-acre parcel of land under the Applicant's control.

Fire support services to the site will be under the jurisdiction of the Alameda County Fire Department, with mutual aid provided by the Tracy Fire Department (San Joaquin County). The closest Alameda County Fire Station to the site is Station No. 8, located at 1617 College Avenue in Livermore. Staff contacted the Alameda County Fire Department and determined that the response time to the project site is estimated to be 15 minutes (ACFD 2001a). Fire Station No. 8 has 2 engines and 3 squads and services a response area of 280 square miles of open rangeland and freeway (ACFD 2001b). In the event of a fire emergency at the EAEC, Alameda County Central Dispatch would send Station 8 and contact the Tracy Fire Department to respond as well, under the automatic aid agreement between the two counties. The Tracy Fire Department would respond with an estimated response time of about 6 minutes (ACFD 2001a).

Alameda County Fire Department Station 4, located at 20336 San Miguel Avenue in Castro Valley, is the HAZMAT first responder. Response time for Station 4 is estimated to be 35 minutes. Firefighters from Station 8 and the Tracy Fire Department would secure the site until they arrived. Station 4 has 24-hour HAZMAT capabilities, a HAZMAT engine and at least six personnel on duty (ACFD 2001a).

In response to the construction of the EAEC, Alameda County is planning to relocate Station 8, which is currently located in downtown Livermore, closer to the EAEC site, at a location near Interstate 580 and Greenhill Road. The relocation will commence as soon as possible and will be completed prior to the start of operations of the EAEC (ACFD 2002b,c). Estimated response time from that location would be 10 minutes to the EAEC. According to Fire Marshall Ferdinand, the relocation of Station 8 would enhance the firefighting capabilities of the Alameda County Fire Department in the rural area where the EAEC is proposed. Adverse effects on the staff of the ACFD are not expected due to this move (ACFD 2001a,c).

Staff has reviewed and evaluated the adequacy of the response time by the ACFD both with and without the relocation of station 8. Staff notes that the response time would vary from 10 minutes to as long as 30 minutes due to traffic and yet is consistent with times found to be adequate at other rural power plant locations within California. Rural response times are necessarily longer than urban response times due to distance between population centers where fire stations are usually located. Staff also notes the existence of mutual aid agreements between fire fighting jurisdictions whereby the nearest station may be within another jurisdiction. Mutual aid agreements require the nearest station to respond first on-scene, evaluate the situation, begin operations as appropriate, and then relinquish command and control to the fire-fighting team from the jurisdictional department upon their arrival. In the event that fire fighting services were needed at the proposed facility, the existing agreement between City of Tracy Fire Department and the Alameda County fire department would likely result in a first response from the new Mountain House Community Services District Fire Department.

Alameda County Fire Department would then arrive on-scene minutes later and assume command and control of the situation.

At the May 28, 2002 workshop, the City of Tracy Fire Department expressed concerns about serving the EAEC with fire and emergency services (EMS), which they would be obligated to do under their current Mutual Aid Agreement with Alameda County Fire Department. According to staff's analysis, however, power plants in general rarely require off-site fire fighting response. This is because of the lack of burnable materials at a power plant, the safety precautions taken, the training of the on-site workers, and the presence of on-site automatic fire detection and suppression systems. Furthermore, the need for EMS response is also minimal. This fact is documented by the applicant's survey of requests from several of its power plants in the western region for off-site fire fighting and EMS services (EAEC 2002lll). The applicant found that for 13 power plants over the past 10 years, only two (2) fire responses were requested, none for a major incident. During this same period, a total of five (5) EMS requests were made and only one of those was for a work-related injury. This supports staff's understanding that off-site fire and EMS services are rarely requested or needed at power plants. Staff therefore concludes that, if the Tracy Fire Department or the Mountain House Community Services District continue to provide services to Alameda County under the current mutual aid agreement, the resulting impacts from the EAEC on those fire departments would be insignificant.

Staff also finds that even without the existence of a Mutual Aid Agreement, fire-fighting and EMS response times for this project are no greater (and in some places far less) than for other California rural power plants, and thus would be sufficient to service the EAEC. Staff therefore concludes that, even without a mutual aid agreement, there will not be significant impacts.

IMPACTS

PROJECT SPECIFIC IMPACTS

Industrial environments are potentially dangerous, during both construction and operation of facilities. Workers at the proposed project will be exposed to loud noises, moving equipment, trenches, and confined space entry and egress problems. The workers may experience falls, trips, burns, lacerations, and numerous other injuries. They have the potential to be exposed to falling equipment or structures, chemical spills, hazardous waste, fires, explosions, and electrical sparks and electrocution. It is important for the EAEC to have well-defined policies and procedures, training, and hazard recognition and control at their facility to minimize such hazards and protect workers. If the facility complies with all LORS, workers will be adequately protected from health and safety hazards.

During construction and operation of the proposed EAEC there is the potential for both small fires and major structural fires. Electrical sparks, combustion of fuel oil, natural gas or flammable liquids, explosions, and over-heated equipment, may cause small fires. Major structural fires may develop from uncontrolled fires or be caused by large

explosions of natural gas or other flammable gasses or liquids. Compliance with all LORS will be adequate to assure protection from all fire hazards.

CUMULATIVE IMPACTS

Staff reviewed the potential for the construction and operation of the EAEC, combined with other existing and foreseeable industrial facilities and the proposed Mountain House Community, to result in impacts on the fire and emergency service capabilities of the Alameda County Fire Department and found that cumulative impacts were insignificant. The most likely need for service at the proposed facility would involve an EMS response. The proposed facility would not significantly increase the frequency of EMS responses in Alameda County. It is also unlikely that the new Mountain House Community would be impacted by providing infrequent EMS or fire responses. The new Mountain House Community development is in a different county and fire protection services would be funded as a result of the community development. The need for additional equipment, staffing, or funding has been made by the Alameda County Fire Department in personal communications, correspondence, or in workshops. This need has been addressed by the applicant. Other power plant projects proposed for this same general area do not change this conclusion.

APPLICANT'S PROPOSED MITIGATION

A Safety and Health Program will be prepared by the applicant to minimize worker hazards during construction and operation. Staff uses the phrase "Safety and Health Program" to refer to the measures that will be taken to ensure compliance with the applicable LORS during the construction and operational phases of the project.

CONSTRUCTION SAFETY AND HEALTH PROGRAM

The EAEC Workers will be exposed to hazards typical of construction and operation of a gas-fired combined cycle facility.
Construction Safety Orders are published at California Code of Regulations, title 8, section 1502 et seq. These requirements are promulgated by Cal/OSHA and are applicable to the construction phase of the project. The Construction Safety and Health Program will include the following:

Construction Injury and Illness Prevention Program (Cal Code Regs., tit. 8, § 1509);

Construction Fire Protection and Prevention Plan (Cal Code Regs., tit. 8, § 1920); and

Personal Protective Equipment Program (Cal Code Regs., tit. 8, §§ 1514 - 1522).

Additional programs under General Industry Safety Orders (Cal Code Regs., tit. 8, §§ 3200 - 6184), Electrical Safety Orders (Cal Code Regs., tit. 8, §§ 2299 - 2974) and Unfired Pressure Vessel Safety Orders (Cal Code Regs., tit. 8, §§ 450 - 544) will include:

Electrical Safety Program;

Unfired Pressure Vessel Safety Orders;

Equipment Safety Program;

Forklift Operation Program;

Excavation/Trenching Program;

Fall Prevention Program;

Scaffolding/Ladder Safety Program;

Articulating Boom Platforms Program;

Crane and Material Handling Program;

Housekeeping and Material Handling and Storage Program;

Hot Work Safety Program;

Respiratory Protection Program;

Employee Exposure Monitoring Program;

Confined Space Entry Program;

Hand and Portable Power Tool Safety Program;

Hearing Conservation Program;

Back Injury Prevention Program;

Hazard Communication Program;

Air Monitoring Program;

Heat and Cold Stress Monitoring and Control Program; and

Pressure Vessel and Pipeline Safety Program.

The AFC includes adequate outlines of each of the above programs. Prior to construction of the EAEC, detailed programs and plans will be provided pursuant to condition of certification **WORKER SAFETY-1**.

OPERATIONS AND MAINTENANCE SAFETY AND HEALTH PROGRAM

Upon completion of construction and prior to start of operation at the EAEC, the Operations and Maintenance Safety and Health Program will be prepared. This operational safety program will include the following programs and plans:

Injury and Illness Prevention Program (Cal Code Regs., tit. 8, § 3203);

Emergency Action Plan (Cal Code Regs., tit. 8, § 3220);

Hazardous Materials Management Program;

Operations and Maintenance Safety Program;

Fire Protection and Prevention Program (Cal Code Regs., tit. 8, § 3221); and

Personal Protective Equipment Program (Cal Code Regs., tit. 8, §§ 3401-3411).

In addition, the requirements under General Industry Safety Orders (Cal Code Regs., tit. 8, §§ 3200 - 6184), Electrical Safety Orders (Cal Code Regs., tit. 8, §§ 2299 - 2974) and Unfired Pressure Vessel Safety Orders (Cal Code Regs., tit. 8, §§ 450 - 544) will be

applicable to the project. Written safety programs, which the applicant will develop, for the EAEC will ensure compliance with the above-mentioned requirements.

The AFC includes adequate outlines of the Construction and Operation Health and Safety Programs as well as the Emergency Action Program/Plan, the Construction and Operation Injury and Illness Prevention Programs and the Fire Protection and Prevention Programs (EAEC 2001a, AFC Sections 8.7.3.1 and 8.7.3.2). Prior to operation of the East Altamont Energy Center project, all detailed programs and plans will be provided pursuant to condition of certification **WORKER SAFETY-2**.

SAFETY AND HEALTH PROGRAM ELEMENTS

The Applicant provided the proposed outlines for both a Construction Safety and Health Program and an Operation Safety and Health Program. The measures in these plans are derived from applicable sections of state and federal law. The major items required in both Safety and Health Programs are as follows:

Injury and Illness Prevention Program (IIPP)

The Applicant will submit an expanded Construction and Operations Illness and Injury Prevention Program to Cal/OSHA for review and comment 30 days prior to both construction and operation of the project.

The IIPP will include the following components as presented in the AFC:

Identity of person(s) with authority and responsibility for implementing the program;

System ensuring employees comply with safe and healthy work practices;

System facilitating employer-employee communications;

Procedures identifying and evaluating workplace hazards, including inspections to identify hazards and unsafe conditions;

Methods for correcting unhealthy/unsafe conditions in a timely manner;

Methods of documenting inspections and training and for maintaining records; and

A training program for:

introducing the program;

new, transferred, or promoted employees;

new processes and equipment;

supervisors; and

contractors.

Emergency Action Plan

California regulations require an Emergency Action Plan (Cal Code Regs., tit. 8, § 3220). The AFC contains a satisfactory outline for an emergency action plan (EAEC 2001a, AFC Sections 8.7.3.1 and 8.7.3.2).

The outline lists the following features:

Purpose and Scope of Emergency Action Plan;

Personnel Responsibilities during Emergencies;

Specific Response Procedures;

Evacuation Plan;

Emergency Equipment Locations;

Fire Extinguisher Locations;

Site Security;

Accident Reporting and Investigation;

Lockout/Tagout;

Hazard Communication;

Spill Containment and Reporting;

First Aid and Medical Response;

Respiratory Protection;

Personal Protective Equipment;

Sanitation; and

Work Site Inspections.

Fire Prevention Plan

California Code of Regulations requires an Operations Fire Prevention Plan (Cal Code Regs., tit. 8, § 3221). The AFC describes a proposed fire prevention plan which is acceptable to staff. The plan will include the following topics:

Responsibilities of employees and management;

Procedures for fire control;

Fixed and Portable fire-fighting equipment;

Housekeeping;

Employee alarm/communication practices;

Servicing and refueling areas;

Training; and

Flammable and combustible liquid storage.

Staff proposes that the Applicant submit a final Fire Protection and Prevention Plan to the California Energy Commission Compliance Project Manager (CPM) and the Alameda County Fire Department for review and approval to satisfy proposed condition of certification **WORKER SAFETY-1** and **2**.

Personal Protective Equipment Program

California regulations require Personal Protective Equipment (PPE) and first aid supplies whenever hazards are encountered which, due to process, environment, chemicals or mechanical irritants can cause injury or impair bodily function as a result of absorption, inhalation or physical contact (Cal Code Regs., tit. 8, § 3380-3400). The East Altamont Energy Center project operational environment will require the availability of PPE.

Information provided in the AFC indicates that all employees required to use PPE will be checked for proper fit and to see if they are medically capable of wearing the equipment. All safety equipment will meet NIOSH or ANSI standards and will carry markings, numbers, or certificates of approval. Respirators will meet NIOSH and California Department of Health and Human Services Standards. Each employee will be provided with the following information pertaining to the protective clothing and equipment:

Proper use, maintenance, and storage;

When the protective clothing and equipment are to be used;

Benefits and limitations; and

When and how the protective clothing and equipment are to be replaced.

The PPE Program ensures that employers comply with the applicable requirements for PPE and provide employees with the information and training necessary to implement the program.

Operations and Maintenance Written Safety Program

In addition to the specific plans listed above, there are additional LORS applicable to the project, which are called "safe work practices." Both the Construction and the Operations Safety Programs will address safe work practices under a variety of programs. The components of these programs include the following:

Fall Protection Program;

Hot Work Safety Program;

Confined Space Entry;

Hearing Conservation Program;

Hazard Communication Program;

Process Safety Management (PSM) Program; and

Contractor Safety Program.

Operations and Maintenance Safety Training Programs

Employees will be trained in the safe work practices described in the above-referenced safety programs.

FIRE PROTECTION

Staff reviewed the information regarding available fire protection services and equipment (EAEC 2001a, AFC Sections 2.3.2.1 Fire Protection Systems and 8.7 Worker Health and Safety) to determine if the project would adequately protect workers and if it would affect the fire protection services in the area. Staff agrees with the Applicant that the project should rely on both onsite fire protection systems and local fire protection services. The onsite fire protection system provides the first line of defense for small fires. In response to a data request, the Applicant has stated that project operations staff will be thoroughly trained to respond to a small fire, activate fire suppression systems, or notify the off-site fire department (EAEC 2001v, page 22). In the event of a major fire, fire support services including trained firefighters and equipment for a sustained response would be required by the Alameda County Fire Department.

The Applicant intends to meet the minimum fire protection and suppression requirements as mandated by the Alameda County Fire Code, NFPA Standards, and the UFC. Elements include both fixed and portable fire extinguishing systems. Raw water for use as fire-water will be supplied by the Byron Bethany Irrigation District. A dedicated fire water storage supply of a minimum of 240,000 gallons will be stored in the raw water storage tanks. An on-site electric jockey pump and electric motor driven main fire pump will be provided to increase the water pressure in the plant fire mains to the level required to serve all fire fighting systems. Additionally, a diesel engine-driven fire pump will be provided to pressurize the fire loop if the power supply to the main fire pump fails.

A fire protection system will be provided for the combustion turbine, generator and accessory equipment. Fire detection sensors will also be installed.

A deluge spray system will provide fire suppression for the generator transformers and auxiliary power transformers. Fire hydrants and hose stations will be used to supplement the plant fire protection system.

In addition to the fixed fire protection system, fire extinguishers will be located throughout the plant Administrative/Maintenance Building, water treatment facility, and other structures as required by the local fire department.

The applicant will be required to provide the final Fire Protection and Prevention Program to staff and to the Alameda County Fire Department, prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection measures.

FACILITY CLOSURE

The project owner/operator is responsible for maintaining an operational fire protection system during closure activities. The project must also stay in compliance with all applicable health and safety LORS during that time. A facility closure plan will be developed prior to closure to incorporate these requirements.

AGENCY COMMENTS

Alameda County Fire Department

Comment 1 *The Alameda County Fire Department wanted to ensure that certain portions of the Alameda County Fire Code, NFPA Standards, and the UFC were followed.*

Response: The Applicant must comply with all LORS, including the UFC and the NFPA. Proposed Condition of Certification **WORKER SAFETY-1** and **-2** require that the project owner submit certain fire prevention plans to the Alameda County Fire Department for review and comment prior to the commencement of construction or operations.

Comment 2 *The Alameda County Fire Department stated in a letter dated January 30, 2002 that they are the jurisdiction with responsibility for fire response to the EAEC and not the MHCSD.*

Response: Staff agrees that the EAEC is within the jurisdiction of the Alameda County Fire Department and that this department has first-responder responsibilities. Please also see response above.

California Department of Industrial Relations, Division of Occupational Safety and Health

Comment *Senior Safety Engineer Roy Berg notes that a truly effective accident prevention program can only be maintained by constant on-site management vigil and employee participation.*

Response: Staff agrees with Mr. Berg and believes that the CPM along with Cal/OSHA will ensure such vigilance and participation.

Mountain House Community Services District

Comment *The Mountain House Community Services District (MHCSD) states in a letter dated December 14, 2001 that their new proposed fire station would be the first responder to any incidents at the EAEC and requests that Calpine pay its fair share of the fire protection that will be provided.*

Response: It is staff's conclusion from personal communications with both the MHCSD and the Alameda County Fire Department and from comments made at a public workshop that this position is incorrect. MHCSD is part of the Tracy Fire Department, which is in a mutual aid agreement with Alameda County Fire Department. However, this does not mean that the MHCSD is the first responder; indeed, the Tracy Fire Department would offer aid and assistance only upon the request of the Alameda County Fire Department. The proposed EAEC is located in Alameda County. Therefore, it is within the jurisdiction of the *Alameda County Fire Department, which would be the first responder to any incident at the EAEC.*

City of Tracy Fire Department

Comment *The City of Tracy Fire Department states in a letter dated June 10, 2002 that, since the Alameda County Fire Department wishes to have full responsibility for response to the entire Alameda County area (which includes the proposed EAEC), they will consider terminating the current mutual aid agreement.*

Response: Staff recognizes that the Tracy Fire Department believes that the current Mutual Aid Agreement between it and the Alameda County Fire Department is unbalanced with regard to services provided by each department. A failure of the Tracy Fire Department or the future fire department of the Mountain House Community Services District to honor a mutual aid agreement is thus theoretically possible. However, staff finds that the need for off-site fire fighting response at power plants is minimal due to the lack of burnable materials at a power plant, the safety precautions taken, the training of the on-site workers, and the presence of on-site automatic fire detection and suppression systems. Furthermore, the need for EMS response is also minimal. This fact is documented by the applicant's survey of requests from several of its power plants in the western region for off-site fire and EMS services (EAEC 2002lll). The applicant found that for 13 power plants over the past 10 years, only two (2) fire responses were requested, none for a major incident. During this same period, a total of five (5) EMS requests were made and only one of those was for a work-related injury. Staff finds that off-site fire and EMS services are rarely requested or needed at power plants and thus no significant impact would exist on either the Tracy Fire Department or the Mountain House Community Services District should either honor a Mutual Aid Agreement. Even without the existence of a Mutual Aid Agreement, fire-fighting and EMS response times for this project would be no greater, and in some places far less, than for other California rural power plants.

PUBLIC COMMENTS

SMS-1 *Ms. Sarvey expressed concern that the EAEC project would add more fire risk and more responsibility to an "overburdened" fire department. She stated that fires are also terrible for air quality, and requested that EAEC should have to provide the Tracy FD with an additional fire truck to ensure public safety and health, and air quality in Tracy.*

Response: Please refer to staff's response to the Tracy Fire Department (above).

IKS-1 *Ms. Sundberg commented that the Tracy Fire Department responds 30% of the time to fires in Alameda County because of their closer proximity. Acceptable mitigation would be a fire truck and station for all the power companies to share the cost.*

Response: Please refer to staff's response to the Tracy Fire Department (above).

CD-1 *Ms. Dominguez commented that Tracy trucks respond to Altamont fires leaving the city at risk and without adequate coverage, and requested negotiation on their fire services.*

Response: Please refer to staff's response to the Tracy Fire Department (above).

BGH-1 *Ms. Hooper commented that Tracy needs a fully equipped fire station. She also commented that the deaf should be included in public notification process of problems with these 3 plants coming on line in the area.*

Response: Please refer to staff's response to the Tracy Fire Department (above). In regards to public notification of deaf persons, all public notices will be in writing. In regards to emergency notices, the applicant must prepare and submit a Hazardous Materials Business Plan and a Risk Management Plan, both of which must contain information about public notification of emergencies. Staff feels that the American Disabilities Act requires that these notifications be in an appropriate format so as to inform and warn all members of the community. The CPM will review and approve these plans prior to the introduction of hazardous materials on-site.

JMH-1 *Mr. Hooper commented that the residents of Tracy want a fully equipped fire station that services the 3 electrical plants only. He also commented that TTY's should be used in public services areas so the hearing impaired can be notified of emergencies.*

Response: Please refer to staff's response to the Tracy Fire Department (above) and the response to Ms. Hooper (above).

CHH-1 *Ms. Hariton commented that fire protection is needed in Tracy, and that another fire station is a necessity.*

Response: Please refer to staff's response to the Tracy Fire Department (above).

CONCLUSION AND RECOMMENDATIONS

If the Applicant for the proposed East Altamont Energy Center project provides a Project Construction Injury and Illness Prevention Program and a Project Operations Safety and Health Program as required by conditions of certification **WORKER SAFETY-1** and **2**, staff believes that the project will incorporate sufficient measures to ensure adequate levels of industrial safety, and comply with applicable LORS. Staff also concludes that the proposed plant will not have significant impacts on local fire protection services. The proposed facility is located within an area that is currently served by the Alameda County Fire Department. This department has expressed a need for modification of its existing infrastructure to serve this power plant and this need has been addressed by the applicant. The fire risks of the proposed facility do not pose significant added demands on local fire protection services and the fire-fighting and EMS response times are no greater than for other rural California power plants.

If the Energy Commission certifies the project, staff recommends that the Energy Commission adopt the following proposed conditions of certification. The proposed conditions of certification provide assurance that the Construction Injury and Illness Prevention Program and the Operations Safety and Health Program proposed by the applicant will be reviewed by the appropriate agencies before implementation. The conditions also require verification that the proposed plans adequately assure worker safety and fire protection and comply with applicable LORS.

PROPOSED CONDITIONS OF CERTIFICATION

WORKER SAFETY-1 The project owner shall submit to the Energy Commission Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following:

A Construction Injury and Illness Prevention Program;

A Construction Personal Protective Equipment Program;

A Construction Exposure Monitoring Program;

A Construction Emergency Action Plan; and

A Construction Fire Protection and Prevention Plan.

The Illness and Injury Prevention Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the Alameda County Fire Department for review and comment prior to submittal to the CPM for approval.

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Injury and Illness Prevention Program. The project owner shall provide a letter from the Alameda County Fire Department stating that they have reviewed and commented on the Construction Fire Protection and Prevention Plan and the Emergency Action Plan.

WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

An Operation Injury and Illness Prevention Plan;

An Emergency Action Plan;

A Hazardous Materials Management Program;

An Operations and Maintenance Safety Program;

A Fire Protection and Prevention Program (Cal Code Regs., tit. 8,§ 3221); and;

A Personal Protective Equipment Program (Cal Code Regs., tit. 8,§§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted by the project owner to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted by the project owner to the Alameda County Fire Department for review and comment.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operations and Maintenance Safety & Health Program. It shall incorporate Cal/OSHA Consultation Service's comments, if any, stating that they have reviewed and accepted the specified elements of the proposed Operations and Maintenance Safety and Health Plan. The project owner shall provide a letter from the Alameda County Fire Department stating that they have reviewed and commented on the Operations Fire Protection and Prevention Plan and the Emergency Action Plan.

REFERENCES

Alameda County Fire Department (ACFD). 2001a. Personal communication with Fire Marshall Jim Ferdinand. July 30, 2001.

Alameda County Fire Department (ACFD). 2001b. ACFD website at http://www.co.alameda.ca.us/fire/geninfo.shtml#Locations

Alameda County Fire Department (ACFD). 2001c. Personal communication with Fire Marshall Jim Ferdinand. November 2001.

Alameda County Fire Department (ACFD). 2002a. Personal communication with Fire Chief William McCammon. March 5, 2002.

Alameda County Fire Department (ACFD). 2002b. Personal communication with Fire Chief William McCammon. June 2002.

Alameda County Fire Department (ACFD). 2002c. Statement of Assistant Chief Ferdinand at May 28, 2002 staff workshop.

1998 California Fire Code. Published by the International Fire Code Institute comprised of the International Conference of Building Officials, the Western Fire Chiefs Association, and the California Building Standards Commission. Whittier, Ca.

City of Tracy Fire Department (COTFD)/ Terrel Estes 2002a. Letter from Terrell S. Estes, Fire Chief, City of Tracy Fire Department to William J. McCammon, Fire Chief, Alameda County Fire Department. Dated 6/10/02 and docketed 6/12/02.

EAEC (East Altamont Energy Center) 2002lll. Informal Response to Request for Data. Dated and docketed July 3, 2002.

EAEC (East Altamont Energy Center) 2001a. Application for Certification, Volume 1 & Appendices, East Altamont Energy Center (01-AFC-4). Dated March 20, 2001 and docketed March 29, 2001.

EAEC (East Altamont Energy Center) 2001v. Data Response Set 3. Dated and docketed October 9, 2001.

Mountain House Community Service District (MHCSD). 2001a. Personal communication with General Manager Paul Sensibaugh. December 28, 2001.

1997 Uniform Fire Code, Vol. 1. Published by the International Fire Code Institute comprised of the International Conference of Building Officials and the Western Fire Chiefs Association, Whittier, Ca.